Washington Poison Center Summary Report for 2002 and 2003

Washington Poison Center (WPC) provides 24-hour emergency medical assistance and information and education about toxic substances or suspected poisons via toll-free telephone numbers. Pesticide-related calls to WPC include intentional and unintentional human exposures, confirmed and non-confirmed exposures, requests for information only, concerns about rodenticides, animal exposures and other pesticide issues.

In 2002, WPC received 2,043 calls concerning human exposures to pesticides. In 2003, WPC received 1,937 calls concerning human exposures to pesticides. Pesticide-related human exposure calls have been consistently about three percent of total human exposure calls to WPC (Table 47).

WPC classifies a call as a *Human Exposure* when a caller reports that they or someone else inhaled, ingested, injected, or inserted a pesticide, or got a pesticide on their skin or in their eyes. Human exposure calls also include situations where the caller only suspects that there was an exposure to a pesticide. Most human exposure calls do not involve subsequent symptoms. Additional information about severity of human exposures is provided below. Calls for information only concerning pesticides are classified as *No Identifiable Patient*; therefore they are not considered exposures. For example, a call to find out if using a pyrethrin-based ant killer in the home would be a risk to small children living there is classified as *No Identifiable Patient*.

Since 1999, the total number of calls to WPC regarding all human exposures, including pesticides, has been decreasing here as well as in other areas throughout the Pacific Northwest.

Table 47. WPC Human Exposure to Pesticide Calls, 1999 - 2003

Pesticide	1999	2000	2001	2002	2003
Fungicide	61	99	94	64	53
Herbicide	425	453	404	347	368
Insecticide/repellent/fumigant	1,562	1,330	1,222	1,218	1,187
Moth repellent	76	50	53	40	30
Rodenticide	399	394	398	374	299
Total*	**2,523**	**2,326**	**2,171**	**2,043**	**1,937**
% of Total Human Exposure Calls to	3.2%	3.1%	3%	2.9%	2.9%
Total WPC Human Exposure Calls**	**78,049**	**74,808**	**71,675**	**70,298**	**65,857**

** Includes human exposure calls that may or may not involve illness.*
*** Does NOT include information-only calls (no identifiable patient) or confirmed non-exposures.*

WPC Human Exposure Calls Reported to Department of Health

By Washington State law, health care providers are required to report pesticide poisoning to the Department of Health (WAC 246-100-101). Health care providers may report cases by calling the WPC. WPC helps manage the case and then forwards copies of the records to DOH.

In 2002, WPC reported 199 human pesticide illness calls to DOH. The individuals either reported signs and/or symptoms of pesticide illness or experienced a pesticide exposure that

could potentially result in development of symptoms. Of the 199 reports, 93 (47%) did not meet the DOH criteria for investigation because the exposure had not resulted in symptoms, was part of a suicide gesture, was unlikely related to the reported symptoms, occurred more than 3 months before the report or, in a few cases, the referral contained insufficient information for follow-up. The Department investigated 106 of the 199 WPC reports. After investigation, DOH determined that 73 illnesses were definitely (29), probably (18) or possibly (26) related to the pesticide exposure. These 73 illnesses are included in the detailed analyses of definite, probable and possible cases in the DOH Section of this report.

Of the 73 WPC calls that DOH determined to be illnesses definitely, probably or possibly (DPP) related to pesticides in 2002, 44 involved residential exposures, 14 involved agricultural exposures, one was in a daycare and 14 occurred in other public settings.

In 2003, WPC reported 258 human pesticide-exposure calls to DOH. Of the 258 reports, 136 (53%) did not meet the DOH criteria for investigation. The Department investigated 122 of the 258 WPC reports. After investigation, DOH determined that 88 illnesses were definitely (42), probably (14) or possibly (32) related to the pesticide exposure. These 88 illnesses are included in the detailed analyses of definite, probable and possible cases in the DOH Section of this report.

Of the 88 WPC calls that DOH determined to be illnesses definitely, probably or possibly (DPP) related to pesticides, 53 involved residential exposures, 16 involved agricultural exposures, one was in a prison and 18 occurred in other public settings.

In 2002, children less than 18 years of age were involved in ten of the WPC pesticide-exposure cases that DOH classified as DPP. Five of these were definitely related to pesticide exposure and five were possibly or probably related. In 2003, children less than 18 years of age were involved in 20 of the cases that DOH classified as DPP. Eight of these were definitely related to pesticide exposure and 12 were or possibly or probably related.

An 8 y/o girl walked around a corner in a retail store just as a bag of moss killer fell off a pallet and burst. The girl walked through the cloud of dust and began coughing. Management called 911.
Classification: Possible.
Severity: Mild.
Pesticide: Nulife Rid-moss.

Type of Pesticides Involved in WPC Human Exposure Calls

The general types of pesticides associated with WPC calls have remained stable over the two-year period. In both years more than half of the human exposure calls involved insecticides and fumigants. The one exception is a 60 percent increase in the number of calls reporting human exposure to an insect repellent. These calls should be monitored and used to develop education about insect repellent safety. Insect repellent use may increase with the anticipated arrival of West Nile Virus in Washington State next year.

In 2002, WPC received 347 calls about potential herbicide exposures. This was 17 percent of the 2,043 pesticide calls. Twenty-nine percent (99) of herbicide calls involved 2,4-D or other chlorophenoxy herbicides (i.e., MCPA, MCPP and 2,4,5-T) and 26 percent (91) involved exposure to glyphosate (the active ingredient in Round-up) (Tables 47 and 48).

In 2003, WPC received 368 calls about potential herbicide exposures. This was 19 percent of the 1,937 pesticide calls. Thirty-one percent (114) of the herbicide calls involved 2,4-D or other chlorophenoxy herbicides and 30 percent (109) involved glyphosate products (Tables 47 and 49).

Table 48 illustrates WPC exposure calls by pesticide type for different age groups for 2002. More than half (55%) of the pesticide calls were about insecticides or fumigants (1,119). Seventeen percent (347) were about herbicides.

Table 48. WPC Pesticide-Related Human Exposures By Age of Potential Case, 2002

Pesticide Type	<6 years	6-19 years	>19 years	Total Calls
Fungicide	6	5	52	64
Herbicide	80	31	234	347
Insecticide/fumigant*	377	148	590	1,119
Insect/animal repellent**	65	20	14	99
Moth repellent	19	3	18	40
Rodenticide	285	21	66	374
Totals***	832	228	974	2,043

* *Nine calls concerned fumigants: one person <6 years and eight >19 years old.*
** *Three calls concerned animal repellent: one child <6 years and two adults >19 years old.*
*** *Age was unknown for 9 calls.*

Table 49 illustrates WPC calls by pesticide type for different age groups for 2003. Again, more than half (53%) of the pesticide calls were about insecticides or fumigants (1,026). Nineteen percent (368) were about herbicides.

Table 49. WPC Pesticide-Related Exposures By Age of Potential Case, 2003

Pesticide Type	<6 years	6-19 years	>19 years	Total Calls
Fungicide	13	3	37	53
Herbicide	99	41	228	368
Insecticide/fumigant*	347	132	543	1,026
Insect/animal repellent**	100	34	27	161
Moth repellent	14	1	15	30
Rodenticide	230	11	55	299
Totals***	803	222	905	1,937

* *Ten calls concerned fumigants; three persons <6 years old and seven >19 years old.*
** *Five calls concerned animal repellent, one person <6 years old, two 6-19 and two >19.*
*** *Age was unknown for 7 calls.*

Table 50 lists the types of insecticides involved in human exposure calls to WPC for 1999 through 2003. Because the product involved in an incident frequently involves more than one type of pesticide, the total number of insecticides does not represent individual exposures.

For 2002, 295 (25%) of the reported insecticides involved pesticides containing organophosphates and carbamates. For 2003, 218 (19%) of the reported insecticides involved pesticides containing organophosphates and carbamates.

Table 50. WPC Type of Insecticide Involved in Human Exposure Calls, 1999 - 2003					
Insecticides and insect repellents generic code/description	**Number of calls**				
	1999	**2000**	**2001**	**2002**	**2003**
Arsenic	10	10	3	6	8
Borates/Boric Acid	20	28	20	33	22
Carbamate Only	65	29	35	46	37
Carbamate with other pesticides	18	11	6	9	19
Chlorinated Hydrocarbon only	72	61	48	29	26
Chlorinated Hydrocarbon with other insecticide	3	3	2	4	3
Metaldehyde	36	43	26	31	22
Organophosphate only	267	301	209	198	124
Organophosphate with carbamate	11	3	3	4	0
Organophosphate with chlorinated hydrocarbons	3	6	4	1	0
Organophosphate with other pesticide	33	36	26	36	28
Organophosphate/carbamate/chlorinated hydrocarbons	0	1	0	1	0
Piperonyl butoxide/pyrethrins/pyrethroids	474	304	432	418	405
Repellents (insect)	107	101	89	96	156
Rotenone	3	1	1	2	1
Veterinary insecticide	194	135	74	6	6
Other	69	112	114	155	181
Unknown	174	142	123	128	128
Total	1,559	1,327	1,217	1,203	1,166

Severity of Human Exposures to Pesticides

WPC classifies human exposure calls by severity of medical outcome. The definitions used by WPC to define severity are listed below:

Minor effect: Symptoms were minimally bothersome and resolved rapidly (e.g., skin irritation, first-degree skin burn, transient cough, mild systemic symptoms such as nausea or headache.

Moderate effect: Symptoms were more pronounced, more prolonged or more systemic in nature. Usually some form of medical treatment is indicated (e.g., corneal abrasion, disorientation, pronounced wheezing, brief seizures that respond readily to treatment.

Major effect: Symptoms are life-threatening or resulted in significant residual disability. Medical treatment is required (e.g., repeated seizures, acute cholinergic crisis, respiratory compromise requiring intubation).

WPC follows up on calls received by calling back to the home, workplace, or health care facility for exposures where there are moderate or major effects present at the time of the call or there is a high potential for moderate or major symptoms to develop based on the history given by the caller or an evaluation of the substance.

The number of WPC exposures with medical outcomes does not match the number of pesticide-related calls referred to DOH because the criteria for referral eliminate some calls. Further investigation may have determined that, while the case involved illness or injury, it was not pesticide-related. Table 51 shows the disposition of WPC calls by medical outcome.

For 2002, 34 (2%) of the human exposure calls involved moderate or major health effects. For 2003, 43 (2%) of the human exposure calls involved moderate or major health effects and one death.

The one death in 2003 occurred to a ten-month old child in a four-unit apartment where 4 foggers had been released. The medical diagnosis was Sudden Infant Death. The DOH classified the exposure as "suspicious". This case is described in further detail in the DOH Section under **Severity of Medical Outcome.**

In 2002 and in 2003, three percent of the pesticide-related calls involved intentional exposure (62 in 2002 and 54 in 2003).

Table 51. 0WPC Human Exposures by Medical Outcome/Disposition*, 2002 and 2003

	2002	2003
Follow-up		
No health effect	108	104
Minor health effect/outcome	160	168
Moderate health effect/outcome	31	39
Major health effect/outcome	3	3
Death	0	1
No follow-up		
Nontoxic exposure	260	186
Minimal toxicity expected	1,184	1,171
Potentially toxic exposure**	40	43
Unrelated	257	222
Total	2,043	1,937

* *Cases coded as 'confirmed non-exposure' are not included*

** *Cases where the caller either refuses to provide a name or contact information or there are other extenuating circumstances that do not allow follow-up.*